

Format of your final report (5 pages minimum)

1. Abstract (1 paragraph)
2. Introduction
3. Observation results
4. Hypotheses
5. Experimental designs
6. Results (or **predictions**)
7. Discussion
8. References (optional)

Extra points if you do the experiments

1. Abstract

Abstract (in one paragraph)

The abstract succinctly introduces the paper.

It should mention why you study this topic; your observation and your hypothesis. without going into methodological detail and should summarize the most important results.

2. Introduction

The introduction should put the focus of your study into a broader context. Include a brief review of related studies (do internet literature search). The introduction should conclude with a brief statement of the significance of this project, why it is an interesting project to you? or why did you choose this animal?

Web search the animal or the behaviors you studied may help you better understand your project.

3. Observation results

The results section should provide a few paragraphs to briefly state the results of your observations (summarize your first report), including the graph.

4. Questions and Hypotheses

Based on your observational data, come up with your questions and then the hypotheses.

- Multiple testable hypotheses (from one question) are strongly encouraged

Example: Why do birds sing? (one ultimate question)

Hypothesis #1: to attract mate

Hypothesis #2: to repel other competing males

Hypothesis #3: to attract their prey

Hypothesis #4: to have fun (hard to test)

4. Experimental designs

The experiments should be designed specifically to test the focal hypothesis.

Example: to test why birds sing is to attract females...

1. Male should stop (reduce) singing when they have acquired their mates (females); bachelor males should sing a lot more than paired males.
1. Remove their mates should resume their singing.
2. Release their mates should stop their singing.
3. Mute the male's singing should prevent the male to acquire any mate.

4. Results (or predictions)

The results section should provide details of all of the experiments (or observations) that are required to support the conclusions of the study.

If you don't have the results, you can make predictions based on your hypotheses and experimental designs.

5. Discussion

The discussion should spell out the major conclusions of the work along with some explanation or speculation on the significance of these conclusions. Conclusions firmly established by the presented data, under what circumstances the hypotheses will be supported or rejected by the presented data.

6. References (optional)

1. Sanger F, Nicklen S, Coulson AR (1977) DNA sequencing with chain-terminating inhibitors. Proc Natl Acad Sci U S A 74: 5463-5467..

Your final report will be graded based on....

1. follow instructions? (30%)
2. hypotheses testable? (10%)
3. experimental designs (25%)
4. logical reasoning? (25%)
5. writing organized? (10%)

Your oral presentation guide

1. Prepare a 5.5 minute talk; 1 minute for question.
I will ring a bell if you speak more than 5.5 minutes. Once you hear the sound, you should wrap up your story.
I will subtract 3 points if you speak less than 4 minutes.
2. Presentation format:
 - (1) Introduction: introduce your animals, why this project is interesting to you and its significance
 - (2) Observation results
 - (3) Hypotheses
 - (4) Experimental designs
 - (5) Experimental results (optional)
 - (6) Discussion: Do your results support your hypothesis? If not, provide alternative explanation.
 - (7) Conclusion and take home message
3. Speak to your audience (eye contact).
4. Organize your slides, make sure it flows well. Practice a few times
5. You will grade each other's presentation.